characterized in that said potential difference and current measuring portion consists of multiple potential difference and current measuring members arranged at and connected to the spaced measuring positions on the object to be measured.

7. (amended) A potential difference and current measuring method as set forth in Claim 1, 2 or 5, wherein said potential difference and current measuring method is characterized in that said potential difference and current measuring portion consists of multiple potential difference and current measuring members arranged at and connected to the spaced measuring positions on the object to be measured, and in that the light-emitting portion of each potential difference and current measuring member consists of one or more light-emitting diodes or combination of one or more diodes and light-emitting elements using filaments.

8. (amended) A potential difference and current measuring method as set forth in Claim 5, wherein said potential difference and current measuring method is characterized in that said light-emitting portion consists of the light-emitting diodes or combination of diodes and light-emitting elements using filament, one with positive polarity and the other with negative polarity, and in that the DC potential difference at said measuring position and the corresponding voltage polarity are judged by the detection of light emission or no light emission from the light-emitting

diodes or light-emitting elements.

9. (amended) A potential difference and current measuring apparatus as set forth in Claim 3 or 4, wherein said potential difference and current measuring apparatus is characterized in that said potential difference and current measuring portion consists of multiple potential difference and current measuring members arranged at and connected to the spaced measuring positions on the object to be measured.

10. (amended) A potential difference and current measuring unit as set forth in Claim 3 or 4, wherein said potential difference and current measuring unit is characterized in that said potential difference and current measuring portion consists of multiple potential difference and current measuring members arranged at and connected to the spaced measuring positions on the object to be measured, and in that the light-emitting portion of each potential difference and current measuring member either consists of the light-emitting diodes or combination of diodes and light-emitting elements using filament

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11. (amended) A potential difference and current measuring unit as set forth in Claim 9, wherein said potential difference and current measuring unit is characterized in that said light-emitting diodes are different in light-emission threshold voltage and light-emitting diodes are different in

emission color as well.

12. (amended) A potential difference and current measuring unit as set forth in Claim 9, wherein said potential difference and current measuring unit is characterized in that when the potential between two equivalent measuring position is measured, said light-emitting portion, which consists of the light-emitting diodes or combination of diodes and light-emitting elements using filaments, has its forward and reverse polarized diodes taken as one set.

13. (amended) A potential difference and current measuring unit as set forth in Claim 9, wherein said potential difference and current measuring unit is characterized in that said light-emitting portion includes a thin gate oxide film in a semiconductor device.

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14. (amended) A potential difference and current measuring unit as set forth in Claim 9, wherein said potential difference and current measuring unit is characterized in that said AC voltage bypass element is a capacitor.

Please add the following new claims:

--30. A potential difference and current measuring unit as set forth in Claim 10, wherein said potential difference and current measuring unit is characterized in that said light-emitting diodes are different in light-emission

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threshold voltage and light-emitting diodes are different in emission color as well.

31. A potential difference and current measuring unit as set forth in Claim 10, wherein said potential difference and current measuring unit is characterized in that when the potential between two equivalent measuring position is measured, said light-emitting portion, which consists of the light-emitting diodes or combination of diodes and light-emitting elements using filaments, has its forward and reverse polarized diodes taken as one set.

32. A potential difference and current measuring unit as set forth in Claim 10, wherein said potential difference and current measuring unit is characterized in that said light-emitting portion includes a thin gate oxide film in a semiconductor device.

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33. A potential difference and current measuring unit as set forth in Claim 10, wherein said potential difference and current measuring unit is characterized in that said AC voltage bypass element is a capacitor.--

IN THE ABSTRACT OF THE DISCLOSURE:

Please amend the abstract as follows:

Abstract of the disclosure

The intensity of the light emitted from the light-emitting